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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/589,663	06/08/2000	Richard Louis Arndt	AUS990940US1	9870

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EXAMINER

TANG, KENNETH

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 03/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/589,663

Applicant(s)

ARNDT, RICHARD LOUIS

Examiner

Kenneth Tang

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-28 are presented for examination.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “performing the services of the hypervisor without modifying the non-assignable resources” (*claim 1*) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because of what appears to be incorrect grammar in Fig. 6, item 604. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The Cross Reference to Related Applications section of the specification needs to be updated with the co-pending application’s serial number and filing date.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. The term “desired result” is indefinite in claim 1.
7. In addition, “modifying” or “modified” in claims 1, 2, 11, 12, 18 and 26 are indefinite because it is not made explicitly clear whether modifying constitutes deleting or changing to an assignable resource, for example.
8. Furthermore, in claim 11, it is not made explicitly clear what “a functionally equivalent task” is equivalent to.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1, 5-8, 10-15, 17-23, 25-28 are rejected under 35 U.S.C. 103(a) as being obvious over Zalewski et al. (hereinafter Zalewski) (US 2002/0016892 A1).**

10. As to claim 1, Zalewski teaches a logically partitioned data processing system, comprising:

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- a plurality of logical partitions; a plurality of operating systems, each assigned to a separate one of the plurality of logical partitions (*page 1, [0008]*);
- a plurality of assignable resources, wherein each of the plurality of assignable resources is assigned to one of the plurality of logical partitions (*see Abstract, and [0008]*);
- at least one non-assignable resource (*page 4, [0041]*); and
- a hypervisor, wherein the hypervisor provides a set of services to each of the plurality of logical partitions allowing a desired result to be achieved by each operating system (*page 1, [0007], page 2, [0018]-[0019]*).

Zalewski fails to explicitly teach performing the services of the hypervisor without modifying the non-assignable resources. However, it is obvious to one of ordinary skill in the art that resources can't be modified until they are initially assigned first.

11. As to claim 5, Zalewski teaches the claimed logically partitioned data processing system wherein the non-assignable resource is a mode of operation of a processor (*page 4, [0039]-[0041]*).

12. As to claim 6, Zalewski teaches the claimed logically partitioned data processing system wherein instructions for executing the hypervisor are contained within firmware (*page 6, [0059] and Applicant's admitted prior art, pages 2-4*).

13. As to claim 7, Zalewski teaches a method for protecting the integrity of a logically partitioned data processing system (*page 14, [0220]*), the method comprising:

- receiving, at a hypervisor, a request from an operating system to perform an operation
(page 1, [0007], page 2, [0018]-[0019]);

Zalewski teaches the hypervisor being responsible for the allocation of resources. Zalewski fails to explicitly teach performing an operation specifically when there is no direct access to the unassigned resource. This is logically equivalent to performing an operation where there is direct access to an assigned resource. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of performing an operation when there is direct access to an assigned resource because access to resources are needed for operations to occur.

14. As to claim 8, Zalewski teaches comprising: responsive to a determination that the request would result in direct access by the operating system to an unassigned resource, refraining from performing the operation *(page 14, [0220])*.

15. As to claim 10, it is rejected for the same reasons as stated in the rejection of claim 6.

16. As to claim 11, Zalewski teaches a method in an operating system executing within a logically partitioned data processing system, the method comprising:

- responsive to a determination that the system resource is one for which access is denied to the operating system, requesting a service from a hypervisor to accomplish a functionally equivalent task *(page 1, [0007]-[0008] and page 4, [0038]-[0041])*.

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Zalewski fails to explicitly teach determining that a system resource needs to be modified.

However, it is obvious to one of ordinary skill in the art that the hypervisor does the determination that the system resources need to be modified when it intercepts requests from the other operating systems and deals with the requests accordingly (*[page 1, [0007]]*).

17. As to claim 12, fails to explicitly teach the claimed method further comprising:
- responsive to a determination that the system resource is not one for which access is denied to the operating system, directly accessing the system resource to apply the modification.

This statement is the logical equivalent of accessing the system resource when the system resource is not denied. It is obvious to one of ordinary skill in the art that the hypervisor makes a modification to the resources when it is allowed access to the system resource because the hypervisor manages the system resources and the only resources that can be modified are the ones that can be accessed (or can't be denied).

18. As to claim 13, it is rejected for the same reasons as stated in the rejection of claim 6.

19. As to claim 14, it is rejected for the same reasons as stated in the rejection of claim 7. In addition, the operating systems contain the computer instructions for performing operations.

20. As to claim 15, it is rejected for the same reasons as stated in the rejection of claims 8 and 12.

21. As to claim 17, it is rejected for the same reasons as stated in the rejection of claim 6.
22. As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 11. In addition, the operating systems contain the computer instructions for performing operations.
23. As to claim 19, it is rejected for the same reasons as stated in the rejection of claim 12.
24. As to claim 20, it is rejected for the same reasons as stated in the rejection of claim 6.
25. As to claim 21, Zalewski teaches the claimed computer program product wherein the computer program product comprises an operating system (*page 1, [0007]*).
26. As to claim 22, it is rejected for the same reasons as stated in the rejection of claim 7.
27. As to claim 23, it is rejected for the same reasons as stated in the rejection of claims 8 and 12.
28. As to claim 25, it is rejected for the same reasons as stated in the rejection of claim 6.
29. As to claim 26, it is rejected for the same reasons as stated in the rejection of claim 11.

30. As to claim 27, it is rejected for the same reasons as stated in the rejection of claims 12.

31. As to claim 28, it is rejected for the same reasons as stated in the rejection of claim 6.

32. Claims 2-4, 9, 16, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zalewski et al. (hereinafter Zalewski) (US 2002/0016892 A1) in view of Noel (US 2002/0016891 A1).

33. As to claims 2-3, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Zalewski fails to explicitly teach translations using a page frame table. However, Noel teaches using page frame tables for physical address translation (*page 18, [0275]-[0276]*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of page frame tables to the existing system in order for creating instances and translating between virtual and physical addresses.

34. As to claim 4, it is rejected for the same reasons as stated in the rejection of claim 2.

35. As to claim 9, it is rejected for the same reasons as stated in the rejection of claim 2.

36. As to claim 16, it is rejected for the same reasons as stated in the rejection of claim 2.

37. As to claim 24, it is rejected for the same reasons as stated in the rejection of claim 2.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30AM - 7:00PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
3/15/04


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